

## ملزمة هيكل الصف العاشر المتقدم - رياضيات



### تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ← المناهج الإماراتية ← الصف العاشر المتقدم ← رياضيات ← الفصل الثالث ← ملفات متنوعة ← الملف

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ملفات اكتب للمعلم اكتب للطالب ا اختبارات الكترونية ا اختبارات ا حلول ا عروض بوربوينت ا أوراق عمل  
منهج انجليزي ا ملخصات وتقارير ا مذكرات وبنوك ا الامتحان النهائي ا للمدرس

المزيد من مادة  
رياضيات:

إعداد: كرم أسعد

### التواصل الاجتماعي بحسب الصف العاشر المتقدم



صفحة المناهج  
الإماراتية على  
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

### المزيد من الملفات بحسب الصف العاشر المتقدم والمادة رياضيات في الفصل الثالث

ملزمة هيكل الصف العاشر المتقدم

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مراجعة هيكل الامتحان النهائي غير محلول

2

الوحدة العاشرة الدرس الأول النسب المثلثية في المثلثات القائمة

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ملزمة هيكل الصف العاشر

متقدم ( ريفيل )

2026-2025

# Mathematics

الترم الثالث

MR. Karam

WhatsApp:



إعداد

أ / كرم أسعد

لا تتردد في التواصل معنا والاستعداد للامتحان بكل ثقة

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Q1

For  $f(x) = 2x^2 - 6x - 9$ : find the y-intercept, axis of symmetry, and x-coordinate of vertex.

What is the y-intercept of  $f(x) = 2x^2 - 6x - 9$ ?

A) -9

B) 9

C) -6

D) 6

Q2

For  $f(x) = 2x^2 - 6x - 9$ :

What is the equation of the axis of symmetry for  $f(x) = 2x^2 - 6x - 9$ ?

A)  $x = -6$

B)  $x = 3/2$

C)  $x = 3$

D)  $x = -3/2$

Q3

For  $f(x) = 2x^2 - 6x - 9$ :

What is the x-coordinate of the vertex of  $f(x) = 2x^2 - 6x - 9$ ?

A)  $-3/2$

B)  $3/2$

C) 6

D) 3

Q4

For  $f(x) = -3x^2 - 9x + 2$ :

What is the y-intercept of  $f(x) = -3x^2 - 9x + 2$ ?

A) -2

B) 2

C) -3

D) -9

Q5

For  $f(x) = -3x^2 - 9x + 2$ :

What is the axis of symmetry for  $f(x) = -3x^2 - 9x + 2$ ?

A)  $x = 3$

B)  $x = 3/2$

C)  $x = -9$

D)  $x = -3/2$

Q6

For  $f(x) = -3x^2 - 9x + 2$ :

What is the x-coordinate of the vertex of  $f(x) = -3x^2 - 9x + 2$ ?

A)  $3/2$

B)  $-3/2$

C) 2

D) -9

Q7

For  $f(x) = 2x^2 + 11x$ :What is the y-intercept of  $f(x) = 2x^2 + 11x$ ?

A) 2

B) 0

C) 11

D) -11

Q8

For  $f(x) = 2x^2 + 11x$ :What is the axis of symmetry for  $f(x) = 2x^2 + 11x$ ?A)  $x = -11/2$ B)  $x = 11/2$ C)  $x = 11/4$ D)  $x = -11/4$ 

b.

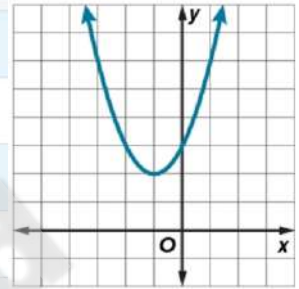
| $x$   | $f(x)$  |
|-------|---------|
| -4    | -12     |
| -3    | -15     |
| -2.75 | -15.125 |
| -2.5  | -15     |
| -1.5  | -12     |

Q9

Use the related graph to determine the solutions.

How many real solutions does  $x^2 + 2x + 3 = 0$  have, based on the graph?

- A) Three real solutions
- B) No real solutions
- C) Two real solutions
- D) One real solution

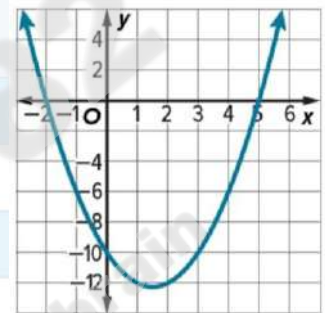


Q10

Use the related graph to determine the solutions.

What are the solutions of  $x^2 - 3x - 10 = 0$ ?

- A)  $x = 2$  and  $x = -5$
- B)  $x = 2$  and  $x = 5$
- C)  $x = -2$  and  $x = 5$
- D)  $x = -2$  and  $x = -5$

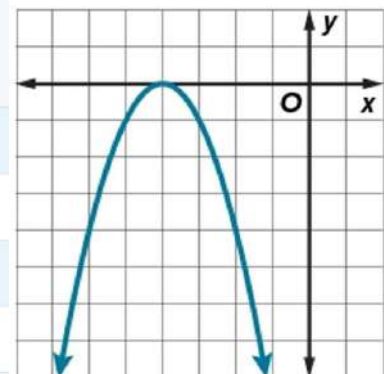


Q11

Use the related graph to determine the solutions.

What is the solution of  $-x^2 - 8x - 16 = 0$ ?

- A) No real solution
- B)  $x = 4$
- C)  $x = -4$  and  $x = 4$
- D)  $x = -4$  (one repeated solution)



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$$\sqrt{-23} \cdot \sqrt{-46}$$

- A)  $23\sqrt{2}$
- B)  $-23\sqrt{2}$
- C)  $23i\sqrt{2}$
- D)  $-46i$

Q13

Simplify.

$$(3i)(-2i)(5i) = ?$$

- A)  $-30$
- B)  $30$
- C)  $30i$
- D)  $-30i$

Q14

Simplify.

$$i^{11} = ?$$

- A)  $i$
- B)  $-1$
- C)  $1$
- D)  $-i$

Q15

Simplify.

$$(4i)(-6i)^2 = ?$$

- A)  $144$
- B)  $144i$
- C)  $-144$
- D)  $-144i$

Q16

*Simplify.*

$$(6 - 3i) + (4 - 2i) = ?$$

A)  $10 - 5i$

B)  $2 + 5i$

C)  $2 - 5i$

D)  $10 + 5i$

Q17

*Simplify.*

$$(-11 + 4i) - (1 - 5i) = ?$$

A)  $-12 + 9i$

B)  $-10 - i$

C)  $-12 - 9i$

D)  $-10 + 9i$

Q18

*Simplify.*

$$(5 - 2i)(4 - i) = ?$$

A)  $22 - 13i$

B)  $18 - 13i$

C)  $20 - 2i$

D)  $18 + 13i$

**Find the value of  $c$  that makes each trinomial a perfect square.**

**Then write the trinomial as the square of a binomial.**

$$x^2 + 10x + c$$

$$x^2 - 14x + c$$

$$x^2 + 5x + c$$

$$x^2 - x + c$$

Q24

How many real roots does  $x^2 - 8x + 16 = 0$  have?

- A) One repeated real root
- B) Two distinct real roots
- C) No real roots
- D) Two imaginary roots

Q25

What is the discriminant of  $x^2 - 11x - 26 = 0$ ?

- A) 225
- B) 121
- C) -225
- D)  $-121 + 104$

Q26

How many real roots does  $x^2 - 11x - 26 = 0$  have?

- A) One repeated root
- B) Two distinct real roots
- C) No real roots
- D) Two imaginary roots

Q27

What is the discriminant of  $5x^2 - 6 = 0$ ?

- A) -120
- B) 36
- C) 120
- D) 25

Q28

What type of roots does  $5x^2 - 6 = 0$  have?

- A) Two rational real roots
- B) One real root
- C) Two irrational real roots
- D) Two imaginary roots

Q29

What is the discriminant of  $x^2 + 8x + 13 = 0$ ?

- A) 12
- B) 64
- C) -12
- D)  $-64+52$

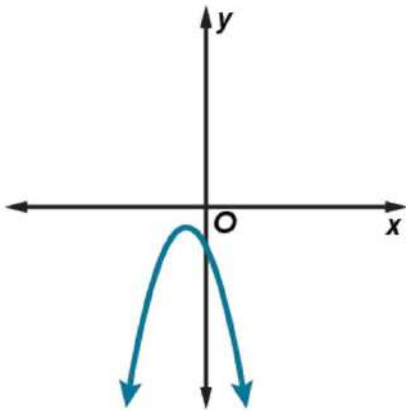
Q30

What type of roots does  $x^2 + 8x + 13 = 0$  have?

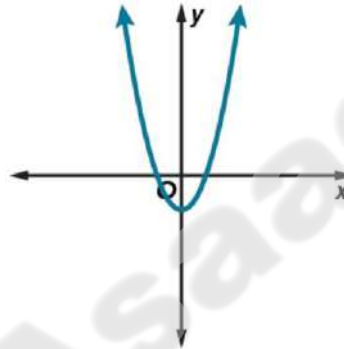
- A) One real root
- B) Two irrational real roots
- C) No real roots
- D) Two rational real roots

**Describe the discriminant of the related equation of each graph.**

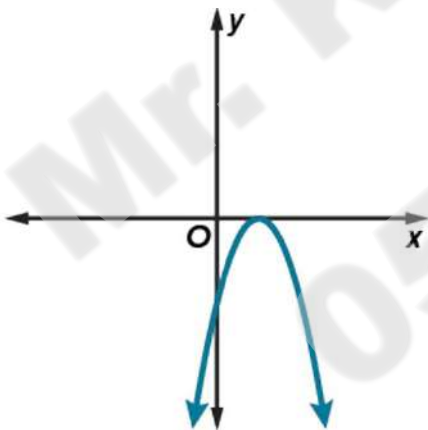
**Then determine the type and number of roots.**



- A) Negative (discriminant  $< 0$ )
- B) Zero (discriminant  $= 0$ )
- C) Positive (discriminant  $> 0$ )
- D) Cannot be determined



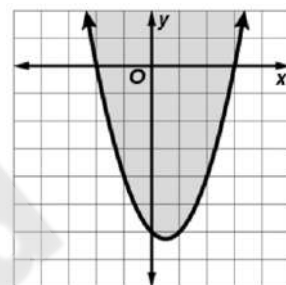
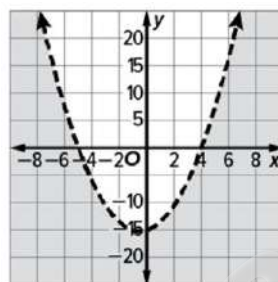
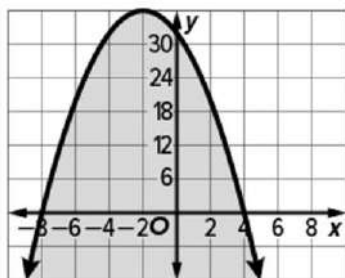
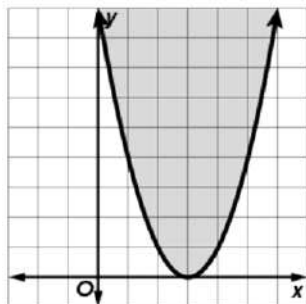
- A) One repeated real root
- B) Two imaginary roots
- C) No real roots
- D) Two distinct real roots



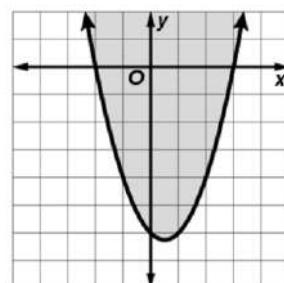
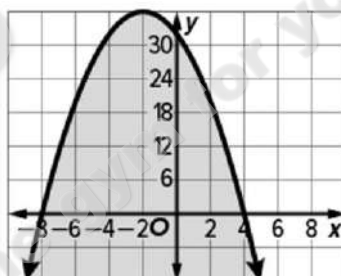
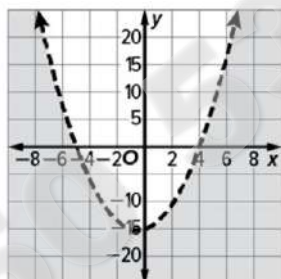
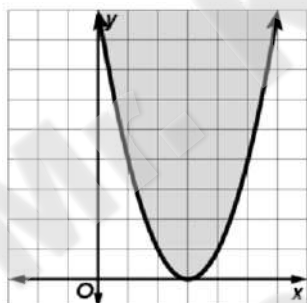
- A) Zero
- B) Positive
- C) Negative (discriminant  $< 0$ )
- D) Cannot be determined

Solve each inequality by graphing.

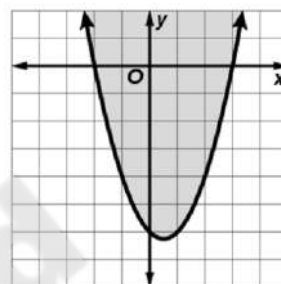
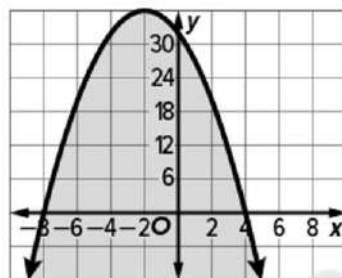
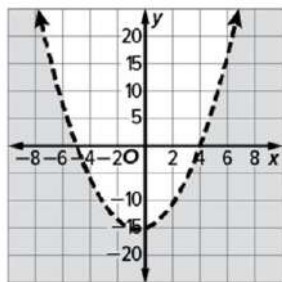
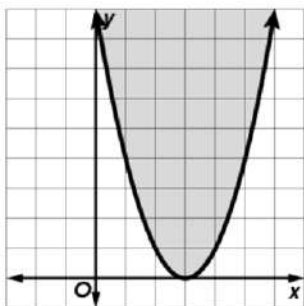
$$x^2 - 6x + 9 \leq 0$$



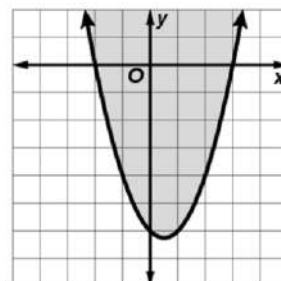
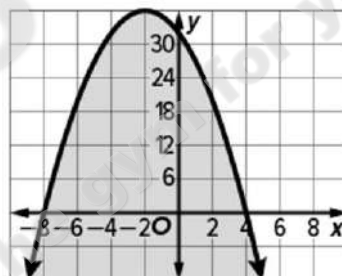
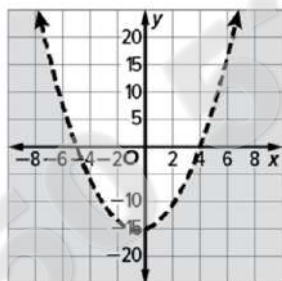
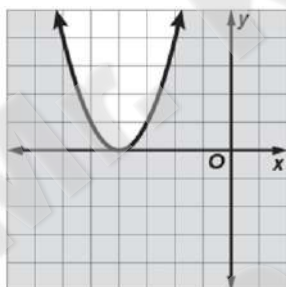
$$-x^2 - 4x + 32 \geq 0$$



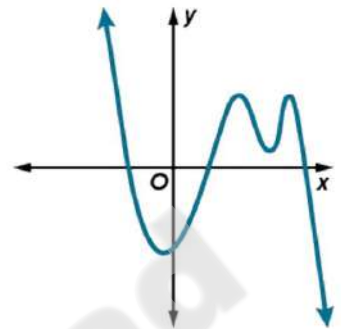
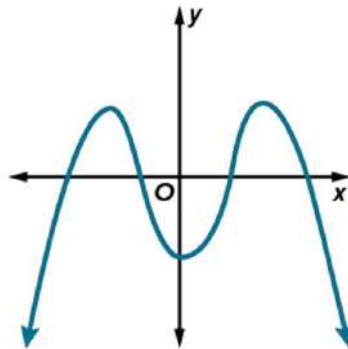
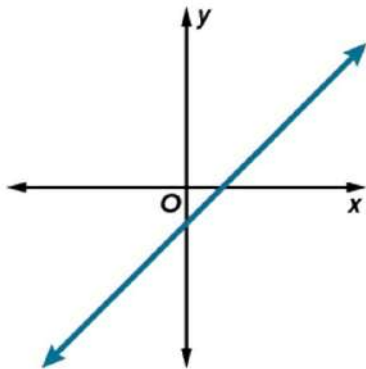
$$\frac{3}{4}x^2 + \frac{3}{4}x - 10 > 5$$



$$x^2 + 8x + 16 \geq 0$$



Use the graph to state the number of real zeros of the function.



Describe the end behavior, state the degree and leading coefficient of each polynomial.

If the function is not a polynomial, explain why.

$$f(x) = -5x^4 + 3x^2$$

$$g(x) = 2x^5 + 6x^4$$

$$g(x) = 8x^4 + 5x^5$$

$$h(x) = 9x^6 - 5x^7 + 3x^2$$



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Q34

Describe end behavior, degree, and leading coefficient.

For  $f(x) = -5x^4 + 3x^2$ , what is the degree?

- A) 2
- B) 3
- C) 4
- D) -5

Q36

For  $g(x) = 2x^5 + 6x^4$ , what is the leading coefficient?

- A) 4
- B) 6
- C) 5
- D) 2

Q38

For  $g(x) = 8x^4 + 5x^5$ , what is the degree?

- A) 4
- B) 8
- C) 9
- D) 5

Q39

For  $h(x) = 9x^6 - 5x^7 + 3x^2$ , what is the leading coefficient?

- A) 9
- B) 3
- C) -5
- D) 7

Q40

Use a table to graph. Estimate x-coordinates of relative maxima and minima.

For  $f(x) = -2x^3 + 12x^2 - 8x$ , where does a relative minimum occur (approx.)?

- A) Near  $x = 0$
- B) Near  $x \approx -0.4$
- C) Near  $x \approx 0.4$
- D) Near  $x \approx 4$

Q41

For  $f(x) = -2x^3 + 12x^2 - 8x$ , where does a relative maximum occur (approx.)?

- A) Near  $x = 2$
- B) Near  $x = 6$
- C) Near  $x \approx 0.4$
- D) Near  $x \approx 4$

Q43

For  $f(x) = x^4 + 2x - 1$ , the graph has a relative minimum near:

- A)  $x = 1$
- B)  $x = 0$
- C)  $x \approx 0.8$
- D)  $x \approx -0.8$

Q44

For  $f(x) = x^4 + 8x^2 - 12$ , is there a relative minimum?

- A) Yes, at  $x = 0$
- B) Yes, at  $x = \pm 4$
- C) No, the function only increases
- D) Yes, at  $x = \pm 2$

**Simplify using synthetic division.**

$$(3t^4 + 4t^3 - 32t^2 - 5t - 20)(t + 4)^{-1}$$

- a)  $3t^3 - 8t^2 + 5$
- b)  $3t^3 - 8t^2 - 5$
- c)  $3t^3 + 8t^2 + 5$
- d)  $3t^3 - 8t^2 - 5$

$$(3v^2 - 7v - 10)(v - 4)^{-1}$$

- a)  $3v + 5 + \frac{10}{v-4}$
- b)  $3v - 5 - \frac{10}{v-4}$
- c)  $3v - 5 + \frac{10}{v-4}$
- d)  $3v + 10 + \frac{10}{v-4}$

Q45

Simplify using synthetic division.

$$(y^3 + 6) \div (y + 2) = ?$$

A)  $y^2 - 2y + 4 - 2/(y+2)$

B)  $y^2 + 2y + 4$

C)  $y^2 + 4 + 2/(y+2)$

D)  $y^2 - 2y - 4$

$$\frac{2x^3 - x^2 - 18x + 32}{2x - 6}$$

a)  $X^2 + \frac{5}{2}x - \frac{3}{2} + \frac{100}{2x-6}$

b)  $X^2 - \frac{5}{2}x + \frac{3}{2} + \frac{23}{2x-6}$

c)  $X^2 + \frac{5}{2}x - \frac{3}{2} + \frac{23}{2x-6}$

d)  $X^2 - \frac{5}{2}x - \frac{3}{2} + \frac{60}{2x-6}$

$$(3c^4 + 6c^3 - 2c + 4)(c + 2)^{-1}$$

- a)  $3c^3 + 2 - \frac{8}{c+2}$
- b)  $3c^3 - 2 + \frac{8}{c+2}$
- c)  $3c^3 - 12 + \frac{8}{c+2}$
- d)  $3c^3 + 12 + \frac{8}{c+2}$

**Q48**

*Simplify each expression.*

$$(15y^3 + 6y^2 + 3y) \div 3y = ?$$

- A)  $5y^3 + 2y^2 + y$
- B)  $5y^2 + 2y$
- C)  $15y^2 + 6y + 3$
- D)  $5y^2 + 2y + 1$

**Q49**

$$(4f^5 - 6f^4 + 12f^3 - 8f^2)(4f^2)^{-1} = ?$$

- A)  $f^3 - (3/2)f^2 + 3f - 2$
- B)  $4f^3 - 6f^2 + 12f - 8$
- C)  $f^2 - (3/2)f + 3$
- D)  $f^3 + 3f^2 - 2f$

Q50

$$(4a^2h^2 - 8a^3h + 3a^4) \div (2a^2) = ?$$

A)  $2h^2 + 4ah - 3a^2$

B)  $2h^2 - 4ah + (3/2)a^2$

C)  $4h^2 - 8ah + 3a^2$

D)  $2h^2 - 4ah - (3/2)a^2$

Q51

Use Pascal's triangle to expand.

$$(x - y)^3 \text{ expanded} = ?$$

A)  $x^3 - y^3$

B)  $x^3 - 3x^2y - 3xy^2 + y^3$

C)  $x^3 + 3x^2y + 3xy^2 + y^3$

D)  $x^3 - 3x^2y + 3xy^2 - y^3$

$$(a + b)^4$$

A)  $a^4 + 4a^3b + 6a^2b^2 + 4ab^3 + b^4$

B)  $a^4 + 3a^3b + 6a^2b^2 + 3ab^3 + b^4$

C)  $a^4 + 4a^3b + 4a^2b^2 + 4ab^3 + b^4$

D)  $a^4 - 4a^3b + 6a^2b^2 - 4ab^3 + b^4$



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$$(y - z)^6$$

A)  $y^6 - 6y^5z + 15y^4z^2 - 20y^3z^3 + 15y^2z^4 - 6yz^5 + z^6$

B)  $y^6 + 6y^5z + 15y^4z^2 + 20y^3z^3 + 15y^2z^4 + 6yz^5 + z^6$

C)  $y^6 - 6y^5z + 12y^4z^2 - 20y^3z^3 + 12y^2z^4 - 6yz^5 + z^6$

D)  $y^6 - 5y^5z + 10y^4z^2 - 10y^3z^3 + 5y^2z^4 - z^6$

**Expand each binomial.**

$$(3x + 4y)^5$$

- A)  $243x^5 + 324x^4y + 432x^3y^2 + 576x^2y^3 + 768xy^4 + 1024y^5$   
B)  $243x^5 + 1620x^4y + 4320x^3y^2 + 5760x^2y^3 + 3840xy^4 + 1024y^5$   
C)  $3x^5 + 60x^4y + 240x^3y^2 + 480x^2y^3 + 480xy^4 + 4y^5$   
D)  $243x^5 - 1620x^4y + 4320x^3y^2 - 5760x^2y^3 + 3840xy^4 - 1024y^5$

$$(8h - 3j)^4$$

- A)  $4096h^4 - 6144h^3j + 3456h^2j^2 - 864hj^3 + 81j^4$   
B)  $4096h^4 + 6144h^3j + 3456h^2j^2 + 864hj^3 + 81j^4$   
C)  $4096h^4 - 1536h^3j + 216h^2j^2 - 108hj^3 + 81j^4$   
D)  $8h^4 - 96h^3j + 432h^2j^2 - 864hj^3 + 3j^4$

**REGULARITY** Use Pascal's Triangle to find the fourth term in the expansion of  $(2x + 7)^6$ . Why is it the same as the fourth term in the expansion of  $(7 + 2x)^6$ ?

- A)  $5488x^3$
- B)  $13720x^4$
- C)  $54880x^3$
- D)  $27440x^3$

**USE A SOURCE** Research the number of judges on the Supreme Court. For most rulings, a majority is needed. How many combinations of votes are possible for a majority to be reached?

- A) 126
- B) 256
- C) 382
- D) 512

**STRUCTURE** Find the term in  $(a + b)^{12}$  where the exponent of  $a$  is 5.

A)  $792a^5b^7$

B)  $924a^5b^7$

C)  $792a^7b^5$

D)  $495a^5b^7$

**PRECISION** Use the first four terms of the binomial expansion of  $(1 + 0.02)^{10}$  to approximate  $(1.02)^{10}$ . Evaluate  $(1.02)^{10}$  using a calculator and compare the value to your approximation.

A) 1.2160

B) 1.2189

C) 1.2000

D) 1.2194

**PERSEVERE** Find the sixth term of the expansion of  $(\sqrt{a} + \sqrt{b})^{12}$ .

A)  $792a^3b^{\frac{7}{2}}$

B)  $924a^{\frac{7}{2}}b^{\frac{5}{2}}$

C)  $792a^{\frac{7}{2}}b^{\frac{5}{2}}$

D)  $924a^3b^3$

Use a graphing calculator to solve  $x^4 + 3x^2 - 5 = -4x$  by graphing.

Use a graphing calculator to solve each equation by graphing. If necessary, round to the nearest hundredth.

$$\frac{2}{3}x^3 + x^2 - 5x = -9$$

A)  $x \approx -4.12$

B)  $x \approx -3.61$

C)  $x \approx 1.48$

D) There are no real solutions.

$$x^3 + 1 = 4x^2$$

- A)  $x \approx -0.47$ ,  $x \approx 0.54$ , and  $x \approx 3.93$
- B)  $x \approx -0.54$ ,  $x \approx 0.47$ , and  $x \approx 4.00$
- C)  $x \approx -0.47$ ,  $x \approx 0.54$ , and  $x \approx 4.12$
- D)  $x \approx -1.00$ ,  $x \approx 0.00$ , and  $x \approx 4.00$

$$x^6 - 15 = 5x^4 - x^2$$

- A) The graph opens upwards on both ends and crosses the  $x$ -axis at exactly **two** real points:  $x \approx -2.31$  and  $x \approx 2.31$ .
- B) The graph opens upwards on both ends and crosses the  $x$ -axis at exactly **two** real points:  $x \approx -2.28$  and  $x \approx 2.28$ .
- C) The graph has a degree of 6, creating four real distinct  $x$ -intercepts located at  $x = -1.5, -0.5, 0.5$ , and  $1.5$ .
- D) The graph opens downwards on both ends and does not cross the  $x$ -axis anywhere, meaning there are no real solutions.

$$x^8 = -x^7 + 3$$

- A) The graph opens downwards on both ends and has a single maximum vertex at  $(0, 3)$ .
- B) The graph stays entirely above the  $x$ -axis, meaning the equation has no real solutions.
- C) The graph opens upwards on both ends and crosses the  $x$ -axis at exactly **two** real points:  $x \approx -1.16$  and  $x \approx 1.06$ .
- D) The graph opens upwards on both ends and crosses the  $x$ -axis at exactly **two** real points:  $x \approx -1.36$  and  $x \approx 1.06$ .

Q65

Factor completely. Write "prime" if not factorable.

$8c^3 - 27d^3 = ?$

A)  $(2c - 3d)(4c^2 + 6cd + 9d^2)$

B)  $(2c - 3d)^3$

C) prime

D)  $(2c + 3d)(4c^2 - 6cd + 9d^2)$

Q66

$64x^4 + xy^3 = ?$

A)  $x(8x^2 + y)(8x^2 - y)$

B)  $(4x + y)^4$

C)  $x(64x^3 + y^3) = x(4x + y)(16x^2 - 4xy + y^2)$

D) prime

Q67

$a^8 - a^2b^6 = ?$

A)  $a^2(a^3 + b^3)(a^3 - b^3)$

B)  $a^2(a - b)^6$

C)  $a^2(a^2 + b^3)(a^2 - b^3)(a^4 + \text{something}) - a^2(a+b)(a-b)(a^2+b^2)(a^2+ab+b^2)(a^2-ab+b^2)$

D) prime

Q68

$$x^6y^3 + y^9 = ?$$

A) prime

B)  $y^3(x^3 + y^3)$

C)  $y^3(x^2 + y^2)(x^4 - x^2y^2 + y^4)$

D)  $y^9(x^6 + 1)$

Q69

$$18x^6 + 5y^6 = ?$$

A)  $(9x^3 + 5y^3)(2x^3 + y^3)$

B)  $(18x^3 + 5y^3)(x^3 + y^3)$

C)  $(3x^2 + y^2)(6x^4 - 3x^2y^2 + 5y^4)$

D) prime



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Q70

Factor completely.

$$12ax^2 - 20cy^2 - 18bx^2 - 10ay^2 + 15by^2 + 24cx^2 = ?$$

A)  $(6x^2 - 5y^2)(2a - 3b + 4c)$

B)  $2(6ax^2 - 5ay^2 + 12cx^2 - 10cy^2 - 9bx^2 + \dots)$

C)  $(3x - 5y)(4ax + 4cx - 3bx)$

D) prime

$$a^3x^2 - 16a^3x + 64a^3 - b^3x^2 + 16b^3x - 64b^3$$

Q72

$8x^5 - 25y^3 + 80x^4 - x^2y^3 + 200x^3 - 10xy^3$ : begin by grouping and factoring.

A)  $x(8x^4 + 80x^3 + 200x^2 - y^3x - 10y^3) - 25y^3$

B)  $(8x^3 - y^3)(x^2 + 10x + 25)$  ... simplifies with sum of cubes  $\times$  perfect square

C) prime

D)  $(2x - y)(4x^2 + 2xy + y^2)(x + 5)^2$

Q73

Solve each equation.

$x^4 + 6x^2 + 5 = 0$ : the solutions are?

A)  $x = \pm 1$  and  $x = \pm\sqrt{5}$

B)  $x = \pm i$  and  $x = \pm i\sqrt{5}$

C)  $x = \pm\sqrt{5}$  (real only)

D) No solution

$$4x^4 - 14x^2 + 12 = 0$$

Q75

$4x^4 - 5x^2 - 6 = 0$ : what are the real solutions?

A)  $x = \pm\sqrt{3/2}$

B)  $x = \pm 2$

C)  $x = \pm\sqrt{2}$

D)  $x = \pm\sqrt{6}$

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**Q76**

Given one factor, find the remaining factors.

$x^3 + 2x^2 - x - 2$ ; factor  $(x + 1)$ . The other factors are?

**A)**  $(x - 1)(x - 2)$

**B)**  $(x + 2)(x + 2)$

**C)**  $(x - 1)(x + 2)$

**D)**  $(x + 1)(x + 2)$

**Q77**

$x^3 - 6x^2 + 32$ ; factor  $(x - 4)$ . What are the remaining factors?

**A)**  $(x + 2)(x - 4)$  [double root at  $x = 4$ ]

**B)**  $(x + 4)(x - 8)$

**C)**  $(x - 2)(x + 4)$

**D)**  $(x - 2)(x - 4)$

Q78

State the possible number of positive real, negative real, and imaginary zeros.

$g(x) = 3x^3 - 4x^2 - 17x + 6$ : possible positive real zeros?

A) 2 or 0

B) 0

C) 3 or 1

D) 1

Q79

$g(x) = 3x^3 - 4x^2 - 17x + 6$ : possible negative real zeros?

A) 1

B) 3

C) 0

D) 2 or 0

Q80

$h(x) = 4x^3 - 12x^2 - x + 3$ : possible positive real zeros?

A) 2 or 0

B) 1

C) 3 or 1

D) 0

Q81

$q(x) = x^4 + 7x^2 + 3x - 9$ : possible imaginary zeros?

A) 2 or 4

B) 0

C) 2

D) 1 or 3

$$f(x) = x^4 - x^3 - 5x^2 + 6x + 1$$



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Q83

If  $f(x) = 3x$ ,  $g(x) = x + 4$ ,  $h(x) = x^2 - 1$ , find each value.

$f[g(1)] = ?$

A) 12

B) 3

C) 15

D) 7

Q84

$g[h(0)] = ?$

A) 3

B) -1

C) 0

D) 4

Q85

$g[f(-1)] = ?$

A) 1

B) 7

C) -3

D) 4

Q86

$h[f(5)] = ?$

A) 44

B) 224

C) 74

D) 225

Q87

$$[f \circ (h \circ g)](1)$$

A) 15

B) 24

C) 18

D) 72

$$[f \circ (g \circ h)](-2)$$

Determine whether each pair of functions are inverse functions. Write yes or no.

$$f(x) = x - 1$$

$$g(x) = 1 - x$$

$$f(x) = 2x + 3$$

$$g(x) = \frac{1}{2}(x - 3)$$

$$f(x) = 5x - 5$$

$$g(x) = \frac{1}{5}x + 1$$

$$h(x) = 6x - 2$$

$$g(x) = \frac{1}{6}x + 3$$

**Simplify.**

$$\pm\sqrt{121x^4y^{16}}$$

A)  $\pm 11x^2y^4$

B)  $\pm 12x^2y^8$

C)  $\pm 11x^8y^4$

D)  $\pm 11x^2y^8$

$$\pm\sqrt{125a^{16}b^{36}}$$

A)  $\pm 5a^4b^6\sqrt{5}$

B)  $\pm 25a^8b^{18}\sqrt{5}$

C)  $\pm 5a^8b^{18}\sqrt{5}$

D)  $\pm 5a^4b^6$

**Q91**

$$-\sqrt{(16c^4d^2)} = ?$$

A)  $-16c^2d$

B)  $-4c^2d^2$

C)  $-4c^2|d|$

D)  $4c^2d$

**Q92**

$$-\sqrt{(81a^{16}b^{20}c^{12})} = ?$$

A)  $-3a^8b^{10}c^6$

B)  $-9a^8b^{10}c^6$

C)  $9a^8b^{10}c^6$

D)  $-81a^8b^{10}c^6$

$$\sqrt[4]{16(x-3)^{12}}$$

A)  $-4c^2|d|$

B)  $-4c^2d$

C)  $-4|c^2d|$

D)  $-2c^2|d|$

$$\sqrt[6]{x^{18}}$$

A)  $x^3$

B)  $x^{12}$

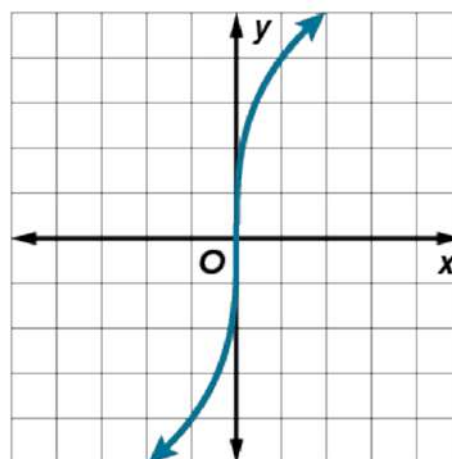
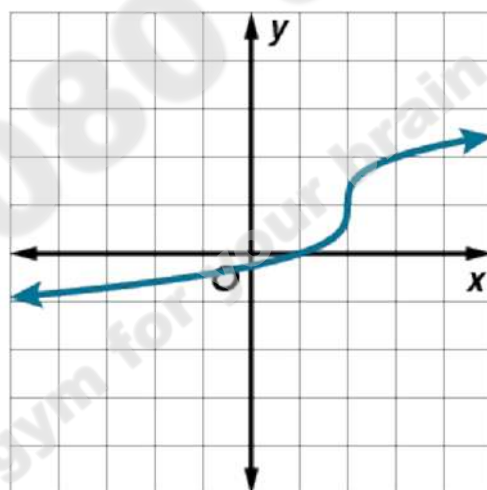
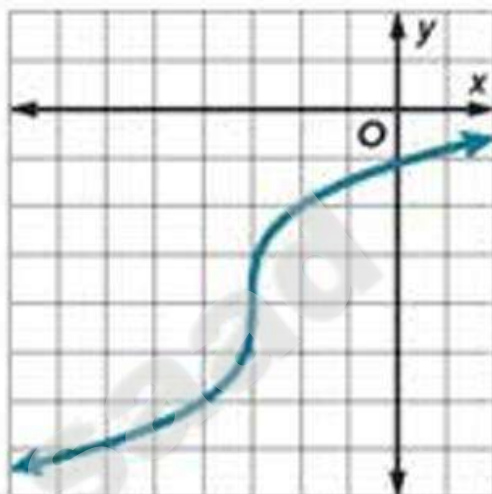
C)  $|x^3|$

D)  $|x|^{12}$

$$\sqrt[4]{a^{12}}$$

$$\sqrt[3]{a^{12}}$$

Write a radical function for each graph.



**Simplify.**

$$\sqrt{2} + \sqrt{8} + \sqrt{50}$$

$$\sqrt{12} - 2\sqrt{3} + \sqrt{108}$$

A)  $7\sqrt{2}$

B)  $8\sqrt{2}$

C)  $6\sqrt{2}$

D)  $\sqrt{60}$

A)  $6\sqrt{3}$

B)  $10\sqrt{3}$

C)  $8\sqrt{3}$

D)  $4\sqrt{3}$

$$\sqrt{28x} - \sqrt{14} + \sqrt{63x}$$

$$\sqrt{135} + 5\sqrt{10d} - 3\sqrt{60}$$

$$\sqrt[4]{64a^4b^4}$$

$$\sqrt[3]{-8d^2f^5}$$

$$\sqrt{\frac{25}{36}r^2t}$$

$$\sqrt{\frac{192k^4}{64}}$$

$$\sqrt[5]{\frac{3072h^8}{243f^5}}$$

$$\sqrt[3]{\frac{432n^{12}}{64q^6}}$$

Solve each equation.

$$5\sqrt{j} = 1$$

$$\sqrt{b-5} = 4$$

$$2 + \sqrt{3p+7} = 6$$

$$5 = \sqrt{2g-7}$$